

NATIONAL MANUFACTURING Co.

STERLING, ILLINOIS



1907

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From the collection of:

Michael Lynch, P.E., AIA, FAPT

NATIONAL MANUFACTURING COMPANY



Hardware Specialties

STERLING, ILLINOIS

1907



TRADE MARK

PREFACE

WE have, in this edition of our catalogue, endeavored to give to the trade a more complete description of many of the articles illustrated than has appeared in any of our former issues. We do this in order that the good points of each article may be more fully understood and appreciated. We have endeavored to have the cuts show as much as possible these points of merit, but realize that some word of explanation is necessary in many instances. We have been as brief as possible in these descriptions, simply taking enough space to emphasize the principal features of the goods.

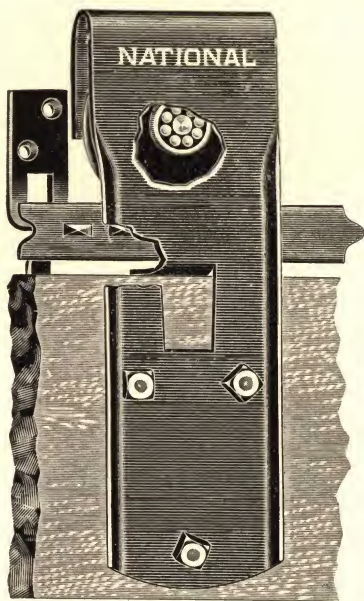
To our regular customers we wish to express our appreciation of the business with which we have been favored in the past, and trust our business methods and the goods sent you have been such as to merit a continuance of our pleasant business relations. Any new customers who come to us may have the assurance of our prompt attention and courteous treatment at all times.

BY THE TIME THIS CATALOGUE REACHES THE TRADE WE SHALL HAVE BEGUN WORK ON A NEW SECTION OF OUR FACTORY, WHICH WILL MORE THAN DOUBLE OUR PRESENT CAPACITY, AND ENABLE US TO HANDLE OUR RAPIDLY-INCREASING BUSINESS EVEN MORE PROMPTLY THAN HERETOFORE. WE MAKE A SPECIALTY OF SHIPPING ALL MAIL ORDERS ON THE SAME DAY THEY ARE RECEIVED, UNLESS FOR GOODS REQUIRING SPECIAL WORK

We continue our policy of producing only high-standard goods, which we offer at prices as low as present manufacturing conditions will permit. With our increased capacity and the demand for our goods for use on high-grade work, we have begun manufacturing our Ornamental Butts and Hinges, Drawer Pulls, Sash Lifts, Sash Locks, etc., from Solid Brass and Bronze in addition to Steel. These goods can be supplied in any of these metals on short notice.

A net price-list applying to this catalogue will be gladly sent on request. We shall be pleased to furnish further detailed information concerning our goods at any time and inquiries to that end are cheerfully responded to.

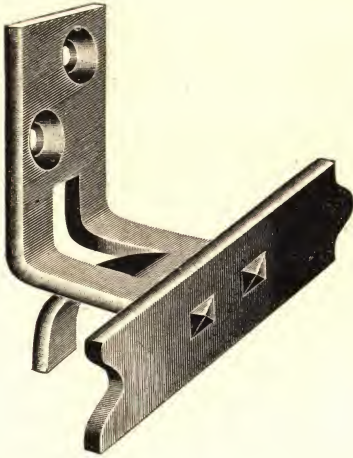
"NATIONAL" RIGID DOOR HANGER



The Steel Frame, with edges turned up, makes it very rigid. The lug turned in under the rail keeps wheel from getting off, and serves as a guide for putting Hanger on the door. Fitted with Anti-Friction Steel Roller-Bearings. Made in two sizes as follows:

- No. 11. $3\frac{1}{2}$ inches wide, Wheel $3\frac{1}{2}$ inches diameter.
- No. 12. $4\frac{1}{2}$ inches wide, Wheel $4\frac{1}{4}$ inches diameter.

"BRACED" RAIL



The above cut speaks for itself. Any one can see at a glance the following advantages over any other kind of Door Rail:

It is braced below, so the screws will hold more than three times as much.

The holes are staggered, so the screws will not go in the same grain of wood.

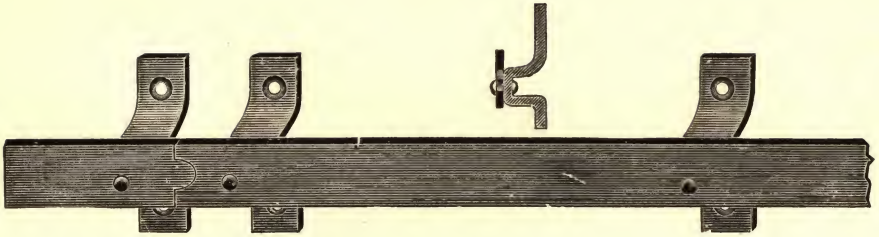
The brackets are only twelve inches apart and double riveted, making it very rigid.

Any barn-door hanger will run on it.

1 $\frac{1}{4}$ x $\frac{3}{16}$ -inch, made in 4, 6, 8 and 10-foot lengths.

"COMMON" RAIL

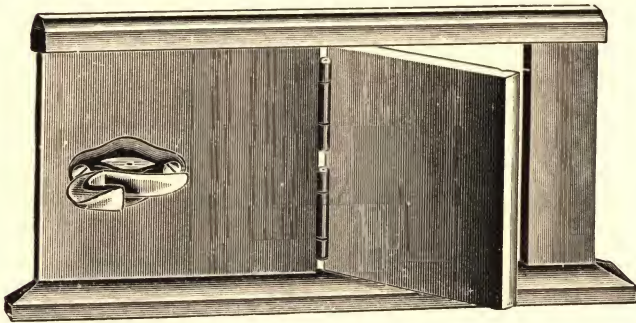
ALL STEEL



1 x $\frac{3}{16}$, 1 $\frac{1}{8}$ x $\frac{3}{16}$, 1 $\frac{1}{4}$ x $\frac{3}{16}$ -inch, made in 4, 6, 8 and 10-foot lengths.

DOOR HOLDER

JAPANNED

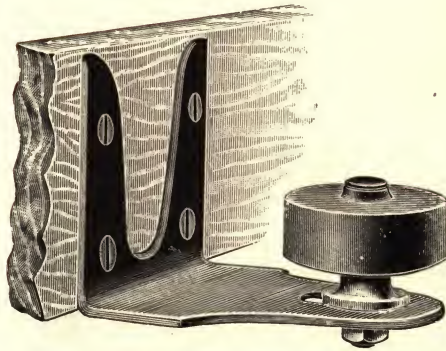


No. 65

When the door is opened, the holder catches it automatically, and holds it open.

STAY ROLLER

JAPANNED



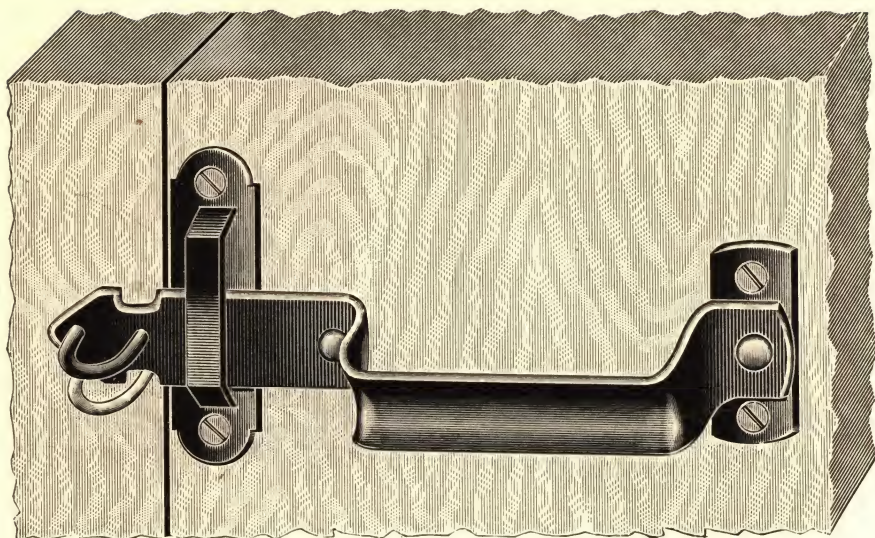
No. 18

REVERSIBLE AND ADJUSTABLE

This Stay Roller has double the space between screws of any other, hence has greater bracing strength, and screws will not pull out.

"WASHBURNE" DOOR LATCH

JAPANNED

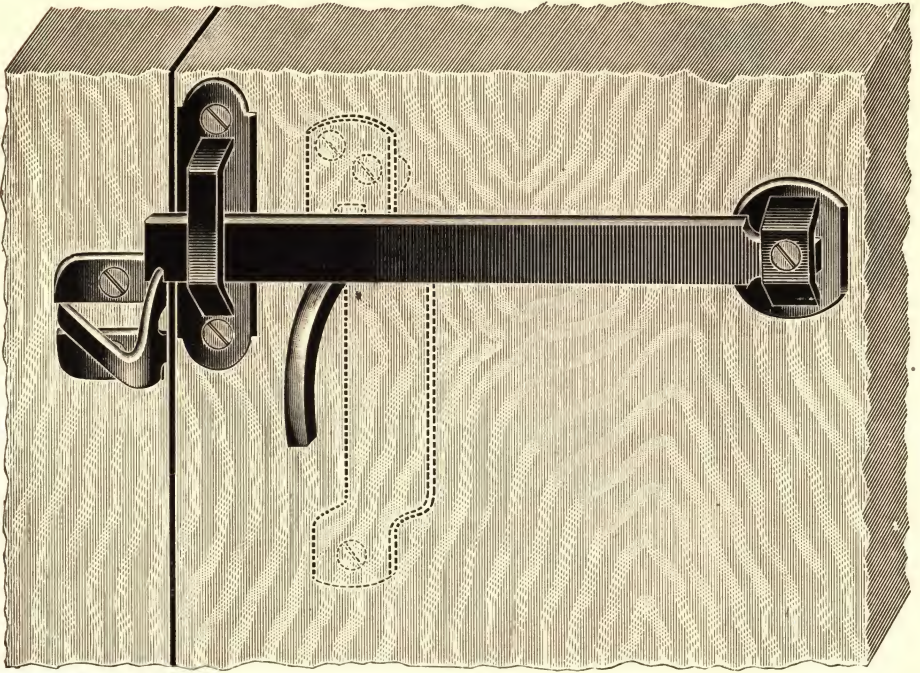


No. 28

This latch is made entirely of steel and is adapted for use on either swinging or sliding doors, either right or left-hand. It is so constructed that it is flush with the door on the inside, so the door can be opened full width. Packed one dozen in a box with one dozen staples for sliding doors and one-half dozen extra strikes for swinging doors.

ALL-STEEL LATCH

JAPANNED



No 29

This is our idea of a perfect Barn-Door Latch for swinging doors. As the name implies it is made entirely of steel. Owing to the construction of this latch, *harness cannot catch on it*. The strike is made with a guard and the bar extends but $\frac{3}{8}$ -inch beyond the edge of the door, making a slight projection on which harness cannot possibly catch. This feature alone will sell it. The latches are packed one dozen in a box with screws.

DOOR PULLS

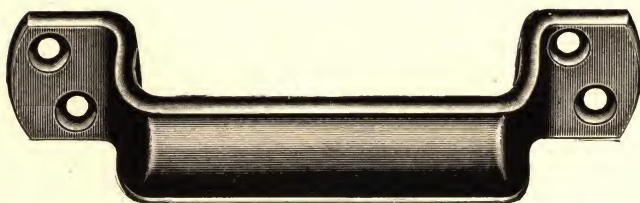
MADE OF STEEL—JAPANNED



No. 4—Cut one-half size



No. 5 HEAVY—Cut one-half size

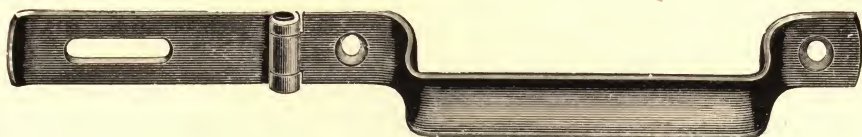


No. 6 EXTRA HEAVY—Cut one-half size

Packed one-quarter gross in paper box.

HANDLE HINGE HASP AND STAPLE

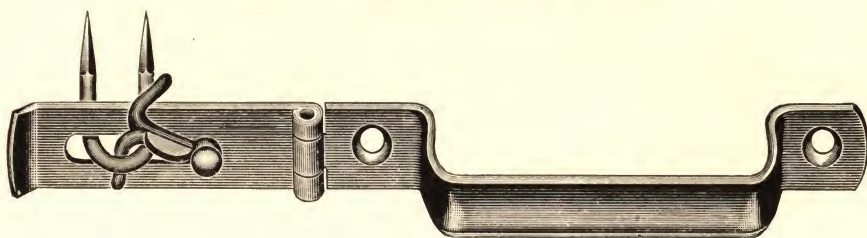
JAPANNED



No. 1—Cut one-half size

No. 1, $\frac{7}{8}$ -inch wide. A very handy combination.

Packed with staples, one dozen in a box.



No. 2

No. 2, with hook, $1\frac{1}{8}$ -inch wide.

No. 3, with hook, $1\frac{3}{8}$ -inch wide, extra heavy. Has two screw holes in each end.

Packed with staples, one dozen in a box.

AUTOMATIC HASP AND STAPLES

SELF-LATCHING

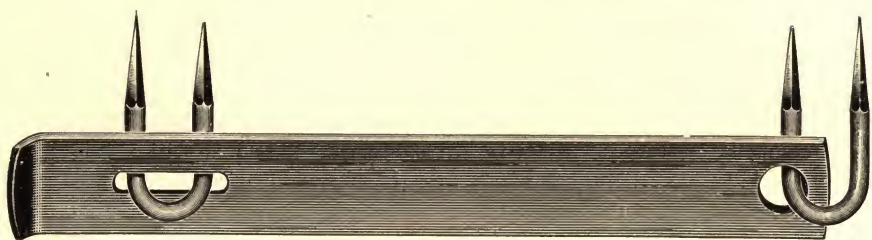


No. 35

The screws are covered when hasp is locked.

One dozen in a box with staples.

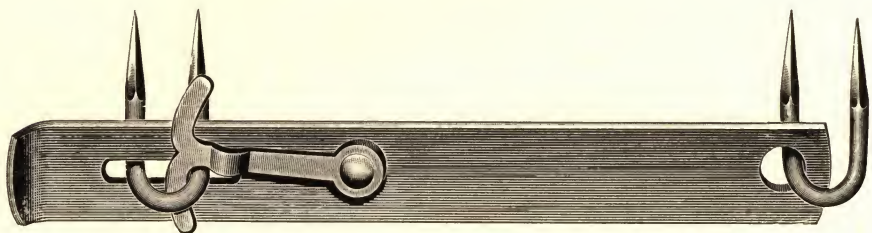
WROUGHT HASPS AND STAPLES



INCHES	6	7	8	9	10	12
Plain Steel, per dozen	\$1 00	\$1 10	\$1 30	\$1 70	\$2 00	\$2 60
Japanned, per dozen	1 20	1 30	1 60	2 00	2 30	3 10

One dozen in a box.

WROUGHT HASPS, HOOKS AND STAPLES



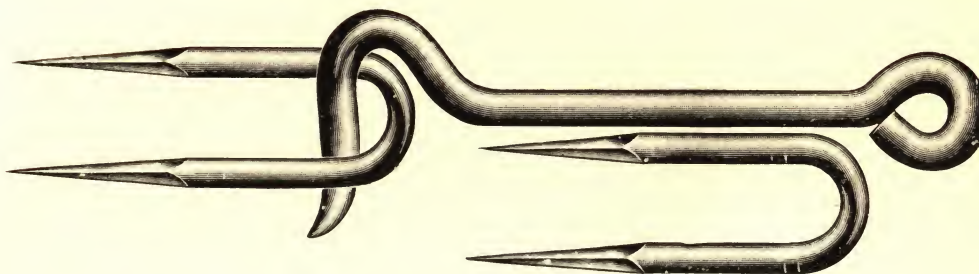
INCHES	6	7	8	9	10	12
Plain Steel, per dozen	\$1 40	\$1 60	\$1 80	\$2 20	\$2 50	\$3 84
Japanned, per dozen	1 65	1 90	2 10	2 60	3 00	4 50

One dozen in a box.

EXTRA HEAVY

INCHES	8	9	10	12
Plain Steel, per dozen	\$2 70	\$3 30	\$3 75	\$5 75

WROUGHT HOOKS AND STAPLES



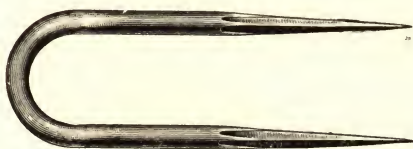
INCHES	3	4	4½
Diameter, inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Per gross	\$12 00	\$15 00	\$16 50

EXTRA-HEAVY

INCHES	5	6
Diameter, inches	$\frac{5}{16}$	$\frac{5}{16}$
Per gross	\$24 00	\$30 00

One-quarter gross in a box.

WROUGHT STEEL STAPLES

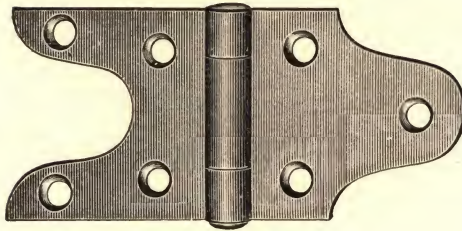


Inches	1	1 1/4	1 1/2	1 3/4	2	
Per gross	\$1 25	\$1 25	\$1 25	\$1 50	\$1 70	
Inches	2 1/4	2 1/2	2 3/4	3	3 1/2	4
Per gross	\$2 00	\$2 35	\$2 65	\$3 20	\$3 70	\$5 25

1 to 3-inch, one gross in a box. 3½ and 4-inch, one-half gross in a box.

SPECIAL HINGES

PLAIN STEEL OR JAPANNED

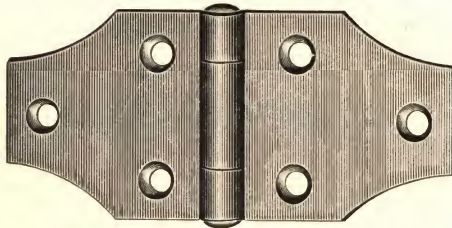


Half-size of No. 22

Numbers	21	22	23
Length open, inches	$3\frac{3}{4}$	5	$6\frac{1}{4}$
Width, inches	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$

No. 21 and 22 two dozen pair in a box.

No. 23 one dozen pair in a box.



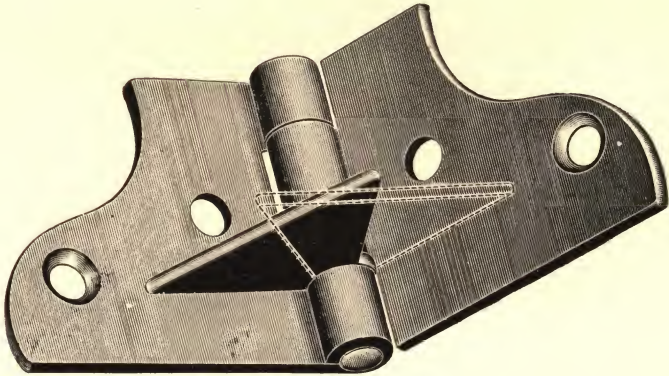
Half-size of No. 32

Numbers	31	32
Length open, inches	$3\frac{1}{4}$	5
Width, inches	$1\frac{3}{4}$	$2\frac{1}{4}$

Two dozen pair in a box.

No. 42 SPECIAL HINGE

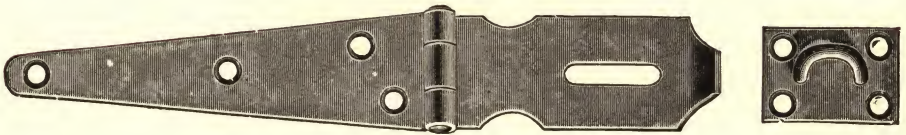
PLAIN STEEL OR JAPANNED



Cut—Two-thirds size

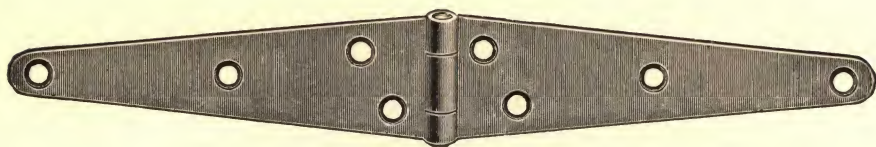
Two dozen pair in a box.

WROUGHT HINGE HASPS



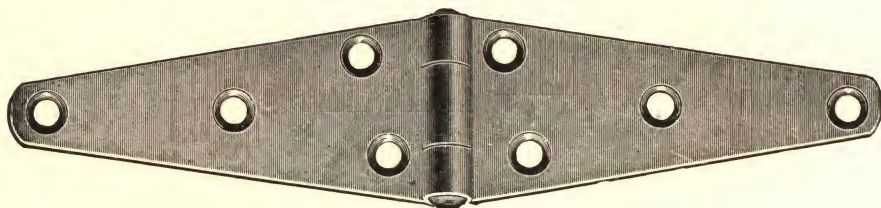
Size, Length of Strap, inches	3	4 $\frac{1}{4}$	6	8
Plain Steel, per single dozen	\$0 50	\$0 60	\$0 80	\$1 05
Japanned, per single dozen	0 70	0 85	1 10	1 40

WROUGHT LIGHT STRAP HINGES



Size closed, inches	3	4	5	6	8
Plain Steel, per dozen pairs	\$0 85	\$1 10	\$1 35	\$1 70	\$2 40
Japanned, per dozen pairs	1 15	1 40	1 65	2 00	2 90

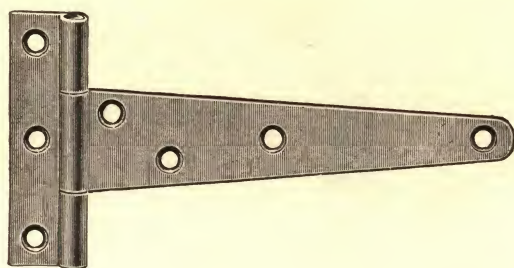
WROUGHT HEAVY STRAP HINGES



Size closed, inches	4	5
Plain Steel, per dozen pairs	\$1 60	\$2 15
Japanned, per dozen pairs	1 90	2 50

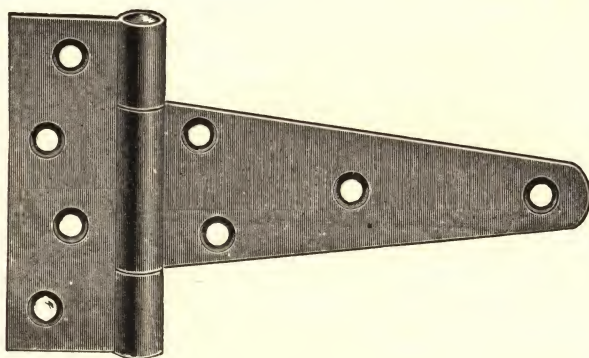
Size closed, inches	6	8	10	12	14
Plain Steel, per pound	\$0 15	\$0 13 1/2	\$0 13	\$0 13	\$0 13
Japanned, per pound	18	17	16	16	16

WROUGHT LIGHT "T" HINGES



Size, Length of Strap, inches	3	4	5	6	8
Plain Steel, per dozen pairs	\$0 75	\$0 80	\$1 00	\$1 20	\$1 50
Japanned, per dozen pairs	90	95	1 20	1 50	1 90

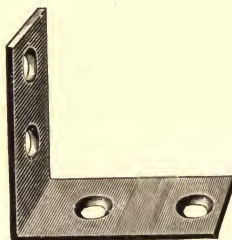
WROUGHT EXTRA-HEAVY "T" HINGES



Size, Length of Strap, inches	4	5
Plain Steel, per dozen pairs	\$1 80	\$2 45
Japanned, per dozen pairs	2 15	2 90

Size, Length of Strap, inches	6	8	10	12	14
Plain Steel, per pound	\$0 15	\$0 14 1/2	\$0 14	\$0 14	\$0 14
Japanned, per pound	18	17	16	16	16

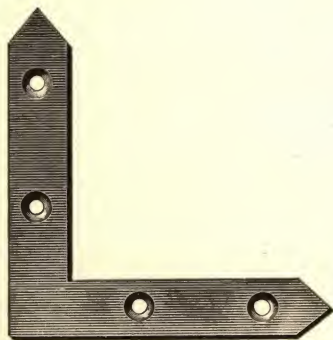
WROUGHT CORNER IRONS



No. 115

Length of sides, inches		Width, inches	Length of sides, inches		Width, inches
1	x	1	4	x	6
1 1/2	x	1 1/2	5	x	5
2	x	2	5	x	6
2	x	2	6	x	6
2 1/2	x	2 1/2	6	x	8
2 1/2	x	2 1/2	6	x	12
3	x	3	8	x	8
3	x	4	10	x	10
4	x	4			
4	x	5			

WROUGHT FLAT CORNER IRONS



No. 117

Length of sides, inches		Width, inches
2	x	2
2 1/2	x	2 1/2
2 1/2	x	2 1/2
3	x	3
3	x	3
3 1/2	x	3 1/2
3 1/2	x	3 1/2
3 1/2	x	3 1/2
3 1/2	x	3 1/2

WROUGHT MENDING PLATES

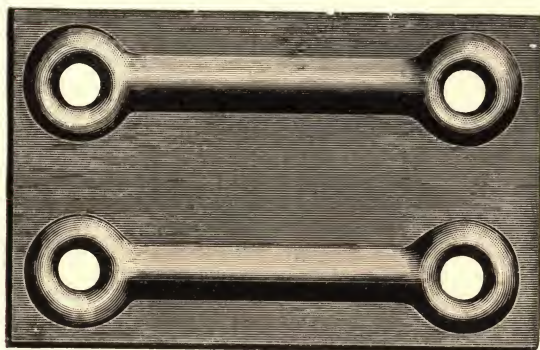


No. 118

Length		Width
4	X	$\frac{5}{8}$
4	X	$\frac{7}{8}$
6	X	$\frac{3}{4}$
8	X	$\frac{7}{8}$
10	X	1
12	X	$1\frac{1}{8}$

STEEL TIE PLATE

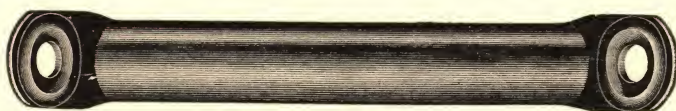
BRIGHT OR JAPANNED



No. 119—Cut full size

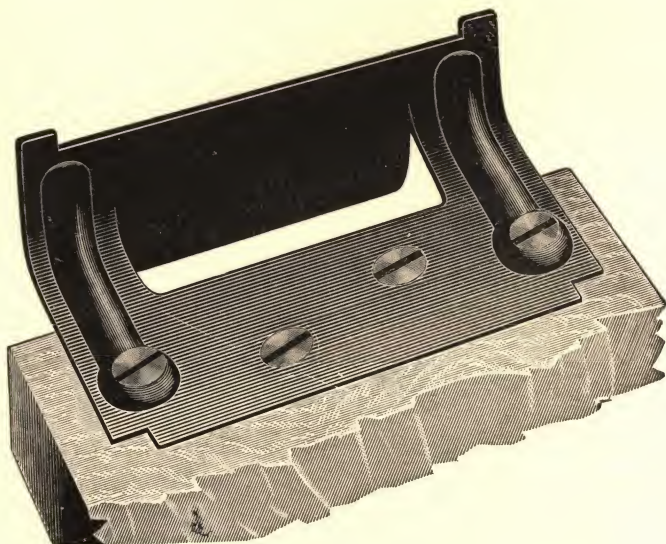
ANGLE BRACE

JAPANNED



No. 120—Cut two-thirds size

"SELF-CLEANER"
PRESSED-STEEL FOOT SCRAPER
JAPANNED



No. 61.

As will be noticed by the illustration this Scraper extends out over the end of step, so that dirt will drop down and not gather around the Scraper.

One dozen in a box.

"UPRIGHT"
PRESSED-STEEL FOOT SCRAPER
JAPANNED

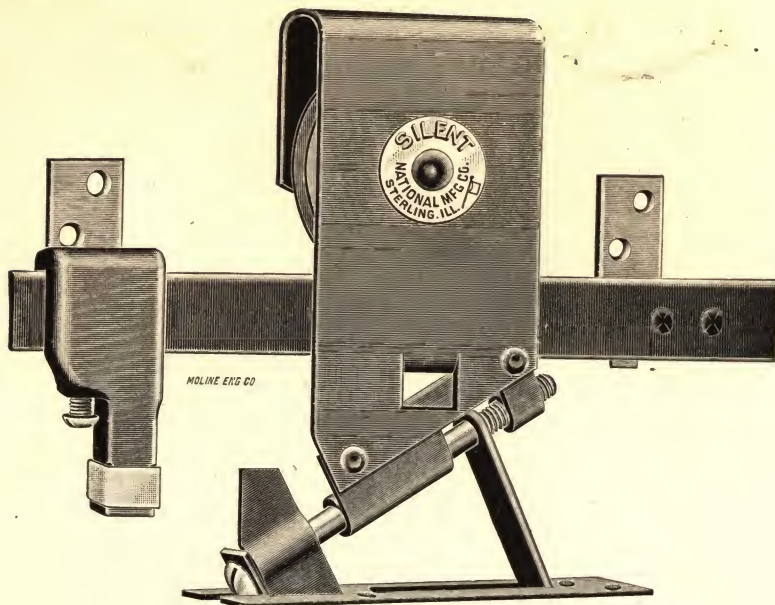


No. 62

Can be used on wood or bedded in cement.

One dozen in a box.

"SILENT" PARLOR DOOR HANGER



No. 82

A "Silent" Parlor-Door Hanger in name and in fact. Extremely simple in construction with no complicated parts to get out of order. Doors are easily hung with this Hanger as it has a flexible hinge joint, which permits the Hanger to adjust itself to the top of the door, whether square or not. The full weight of the door rests on the adjusting screw which is extra heavy and long and will never work loose as do the short adjusting screws, permitting the door to drop down. This is further prevented by a sort of lock-nut at the end of the adjusting screw. The wheel has vulcanized fibre tread and is supplied with roller bearings. Each set is packed complete with screws, stops and guides.

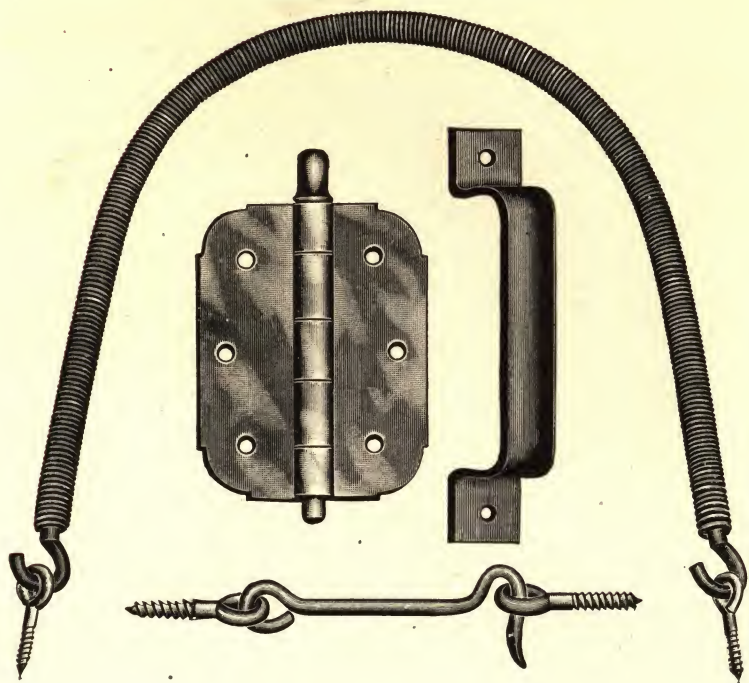
Double Sets, complete with 14 feet track.

Single Sets, complete with 8 feet track.

Weight, per Double Set, 25 pounds.

Weight, per Single Set, 15 pounds.

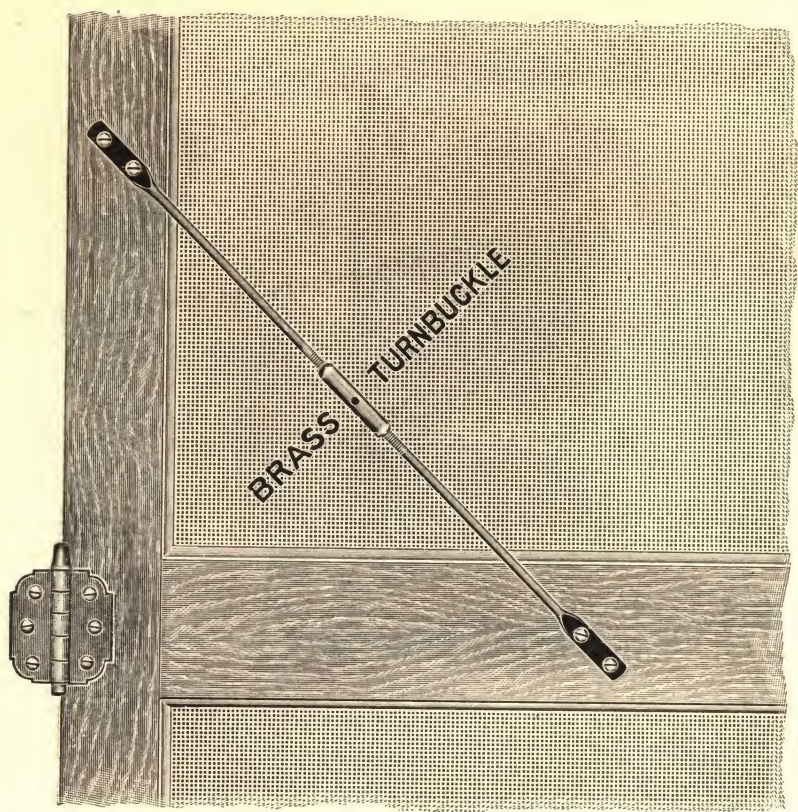
SCREEN AND STORM-DOOR SETS



No. 90—Cut one-half size

The combination Screen Set here illustrated is the most durable and practical set on the market. The hinges are of steel, size $3 \times 2\frac{1}{2}$ inches. They are also loose pin so that it is not necessary to remove any screws when taking the door down. An offset Hinge can be obtained by removing the pin and reversing one leaf. The pull is $4\frac{1}{2}$ inches long, made of steel and very neat. No. 3 Perfect Springs are packed with each set. One set with screws, is packed in a carton, and one dozen sets in a box. Any finish desired. A handsome model furnished free of charge.

SCREEN-DOOR TURNBUCKLE

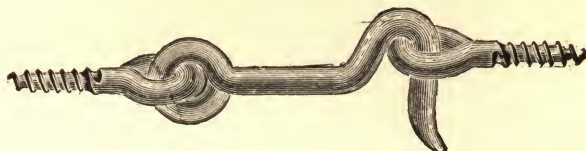


No. 195

Our turnbuckles are made extra long, giving additional leverage to raise the door. They can be used on either screen or storm-doors. The end pieces are of steel with a *brass* turnbuckle in the center. As brass will not rust to steel the turnbuckle can be easily operated at any time. They are packed with screws, one complete turnbuckle in a specially-printed envelope—one dozen in a package. Any finish desired. A handsome enamel-stamped display card is furnished free of charge.

GATE HOOKS AND EYES

LIST-PRICE—PER GROSS



Inches	Iron	Inches	Iron
1 1/2	\$ 6 00	7	\$28 00
2	7 50	8	30 00
2 1/2	8 50	9	32 00
3	10 00	10	35 00
3 1/2	12 50	11	40 00
4	13 50	12	45 00
4 1/2	17 00	13	50 00
5	20 00	14	55 00
5 1/2	24 00	15	60 00
6	25 00	16	70 00

One-half gross in a box.

Eyes have best gimlet point.

PERFECT DOOR AND GATE SPRINGS

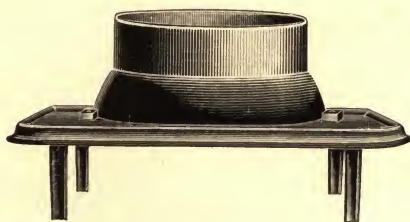
JAPANNED OR PLATED



Five sizes.

One dozen in a box with eyes.

THE "BEST" CHIMNEY CAP



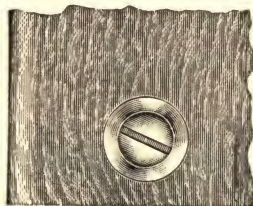
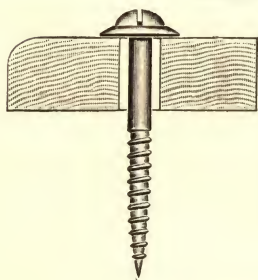
Made in two sizes and the legs have a radial adjustment so that each size will fit any chimney up to the largest size for which it is designed. The legs project inside the chimney to prevent the cap from blowing off. It is not necessary to use mortar or cement to fasten this cap to the chimney as the legs will keep it in place. To put cap on chimney adjust the legs to the size of the flue and set it on.

Made in the following sizes, packed one-half dozen in crate.

No. 10½ for chimneys		Collar for 8-inch pipe	
1½	x 2 Brick	Flues 4	x 8
2	x 2 Brick	Flues 8	x 8
1½	x 2½ Brick	Flues 4	x 12
2	x 2½ Brick	Flues 8	x 12
No. 12 for chimneys		Collar for 10-inch pipe	
2	x 3 Brick	Flues 8	x 16
2½	x 3 Brick	Flues 12	x 16
2½	x 2½ Brick	Flues 12	x 12

"ONE-PIECE" STOP BEAD SCREW

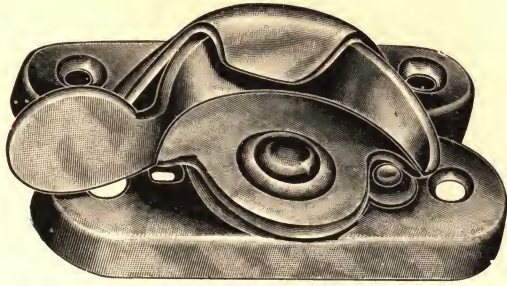
Requires no washer.



No. 300—Cut full size.

1⅛ x 8 1¼ x 10
Any finish desired. One gross in a box.

"ALL-STEEL" SASH LOCK



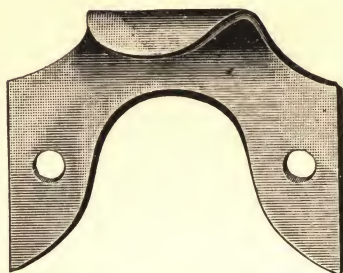
No. 600—Cut full size.



Bottom view of Sash Lock.

The Sash Lock here illustrated is our latest model and one which we consider superior to any other. The Lock is made of cold-rolled steel throughout, taking an exceptionally fine finish. The lower illustration shows the simple construction of this Lock. The coil spring is made of finest piano wire, fully tested. Owing to the peculiar and simple construction of the Lock, friction is reduced to the minimum and the rigidity of the Lock retained. The Locks are packed one dozen in a box with screws, and are furnished in any finish desired.

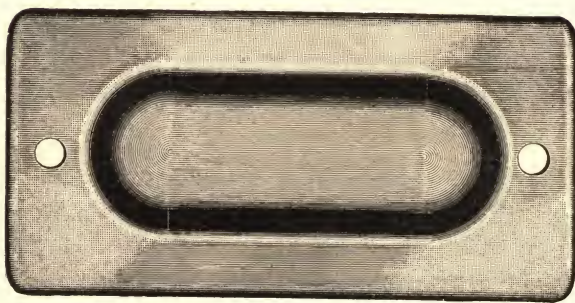
WROUGHT-STEEL SASH LIFT



No. 130—Cut full size.

Any finish desired. One-half gross in a box with screws.

FLUSH STEEL SASH LIFT



No. 140—Cut full size.

Any finish desired. One-quarter gross in a box with screws.

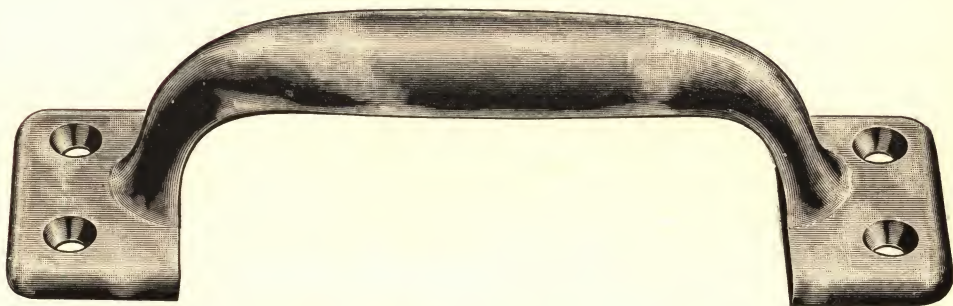
BAR SASH LIFT AND DRAWER PULL



No. 150—Cut full size.

Made of steel. Any finish desired. One-quarter gross in a box, with screws.

BAR SASH LIFT AND DRAWER PULL

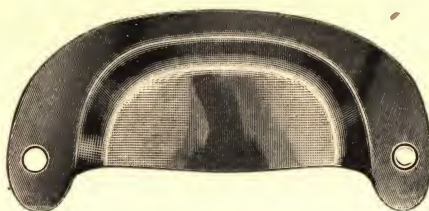


No. 160—Cut full size.

Cast iron. Any finish desired. One-quarter gross in a box, with screws.

CRESCENT DRAWER PULL

PRESSED STEEL



No. 105—Cut two-thirds size of three and one-fourth inch.

Length, inches, $3\frac{1}{4}$ and $3\frac{3}{4}$.

Any finish desired. One-quarter gross in a box, with screws.

WROUGHT-STEEL DRAWER PULL



No. 205—Cut half-size of four and one-half inch.

Length, inches	Width, inches
$2\frac{3}{4}$	$\frac{1}{2}$
$3\frac{1}{4}$	$\frac{5}{8}$
$4\frac{1}{2}$	$\frac{3}{4}$

Any finish desired. One-quarter gross in a box, with screws.

ORNAMENTAL BUTTS AND HINGES

ON the following pages will be found illustrations and descriptive matter pertaining to the Ornamental Butts and Hinges.

The great and increasing favor with which these Ornamental Butts and Hinges have been meeting among the carpenters, contractors, dealers and architects, has fully demonstrated the fact that they are practical and the increasing demand indicates a more general use the coming season. They are appropriate for use on either private dwellings or public buildings. They can be furnished in steel, brass, or bronze, in all standard finishes. Any special finish can be matched or supplied on short notice, as we have in operation one of the best equipped plating plants in the country, superintended by an expert plater with an able corps of assistants.

We claim the following points of superiority for these goods, as compared with the old-style or common butts:

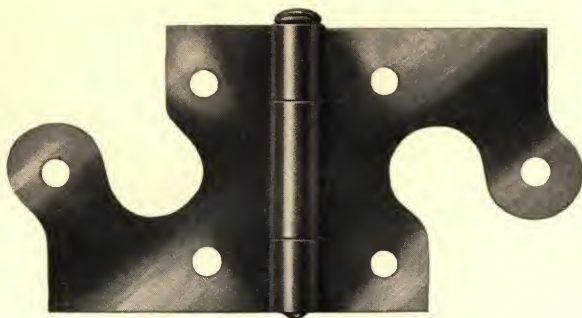
First:—Wherever these Butts and Hinges have been used carpenters and contractors have found that they save one-half the time required to hang the doors. The method of procedure is very simple and will be readily understood by referring to the diagram and instructions on page 38.

Second:—All sizes of these Butts, both Japanned and Plated, are packed with screws. The 3-inch, 3½-inch and 4-inch sizes are packed one pair in a box. The 1½-inch, 1¾-inch and 2½-inch sizes are packed one dozen pair in a box.

Third:—The pin extends through all the knuckles, making the Butts very rigid. In the ball-tip Butts the pin extends only to the lowest knuckle, weakening the butt just that much. The pin is easily removed from the Ornamental Butts, while it is frequently impossible to remove it from the ball tip butts without springing them.

Fourth:—The screws in the Ornamental Butts will stand a much greater weight than the screws in the same size common butts. In the Ornamental Butts the screws are subjected to a shearing strain, while the screws in the common butts must withstand a drawing strain. The advantage is obvious. With the first order for Ornamental Butts and Hinges we furnish a handsome mounted model free of charge.

ORNAMENTAL SURFACE HINGE



No. 350

Width, inches, $1\frac{1}{2}$, $1\frac{3}{4}$, $2\frac{1}{2}$.

The $2\frac{1}{2}$ -inch Ornamental Hinges have the Steeple Tip Pin.
Any finish desired. One dozen pair in a box with screws.

ORNAMENTAL CUPBOARD BUTT



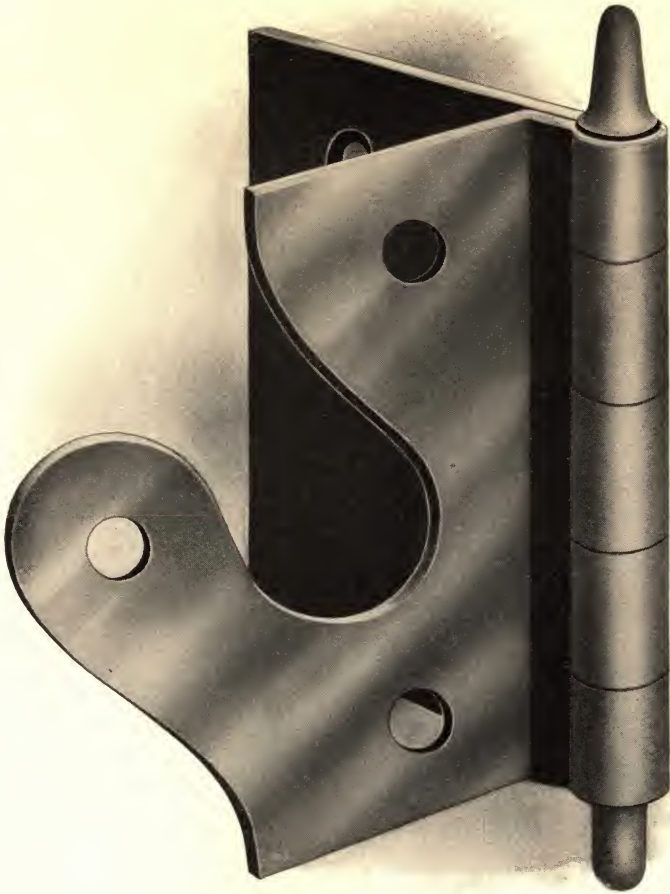
No. 350

Width, inches, $1\frac{1}{2}$, $1\frac{3}{4}$, $2\frac{1}{2}$.

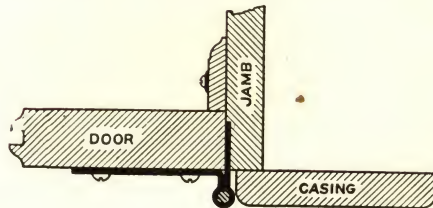
The $2\frac{1}{2}$ -inch Ornamental Butts have the Steeple Tip Pin.
Any finish desired. One dozen pair in a box with screws.

Furnished in lefts when so desired.

ORNAMENTAL BUTT



No. 350—Cut full size, three and one-half inch.



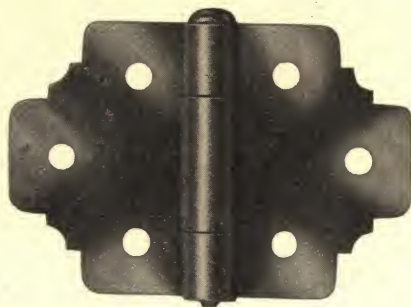
Any finish desired.

3-inch, $3\frac{1}{2}$ -inch and 4 inches wide. For smaller sizes see page 34.

One pair in a carton, with screws.

Furnished in lefts when so desired.

ORNAMENTAL SURFACE HINGE



No 400

Width, inches, $1\frac{1}{2}$, $1\frac{3}{4}$, $2\frac{1}{2}$.

The $2\frac{1}{2}$ -inch Ornamental Hinges have the Steeple Tip Pin.
Any finish desired. One dozen pair in a box with screws.

ORNAMENTAL CUPBOARD BUTT



No. 400

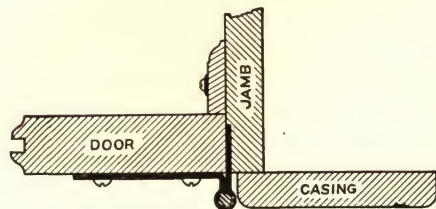
Width, inches, $1\frac{1}{2}$, $1\frac{3}{4}$, $2\frac{1}{2}$.

The $2\frac{1}{2}$ -inch Ornamental Butts have the Steeple Tip Pin.
Any finish desired. One dozen pair in a box with screws.

ORNAMENTAL BUTT



No 400—Cut full size, three and one-half inch



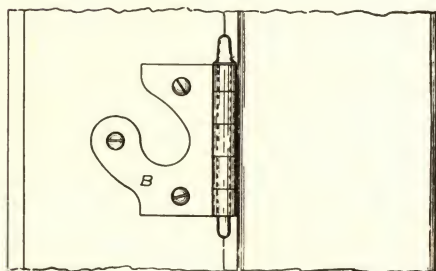
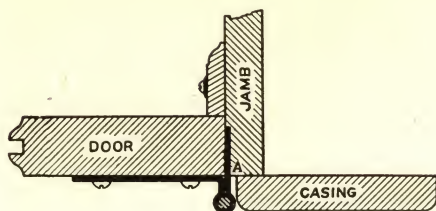
Width, inches, 3, $3\frac{1}{2}$ and 4.

Any finish desired. One pair in a carton, with screws.

. For smaller sizes, see page 36.

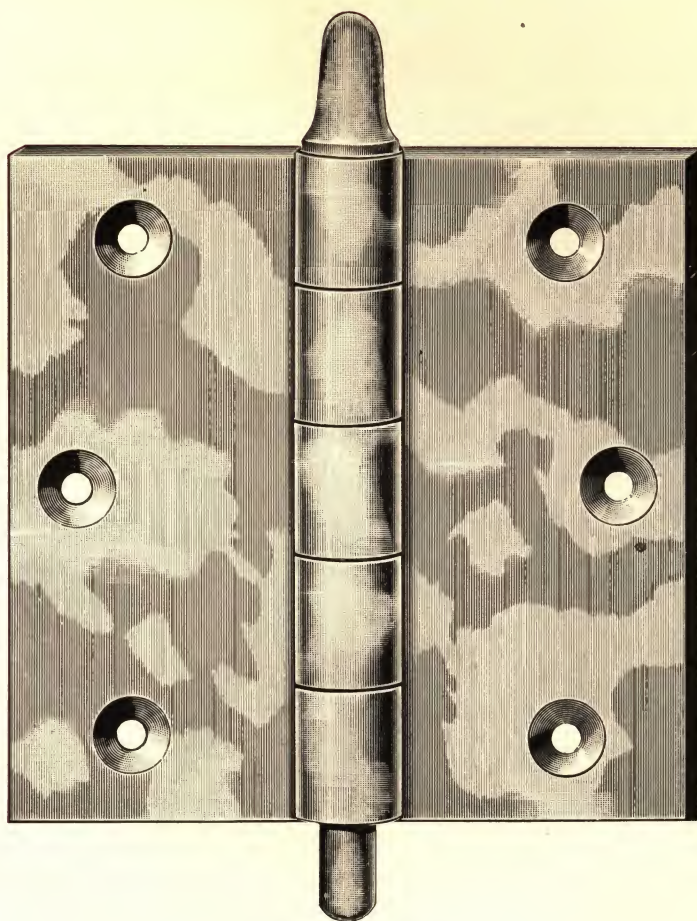
DIRECTIONS FOR HANGING DOORS

WITH ORNAMENTAL BUTTS



Attach butt part "A" to jamb first, then set and wedge door into place and fasten ornamental leaf "B".

WROUGHT STEEL STEEPLE TIP BUTT



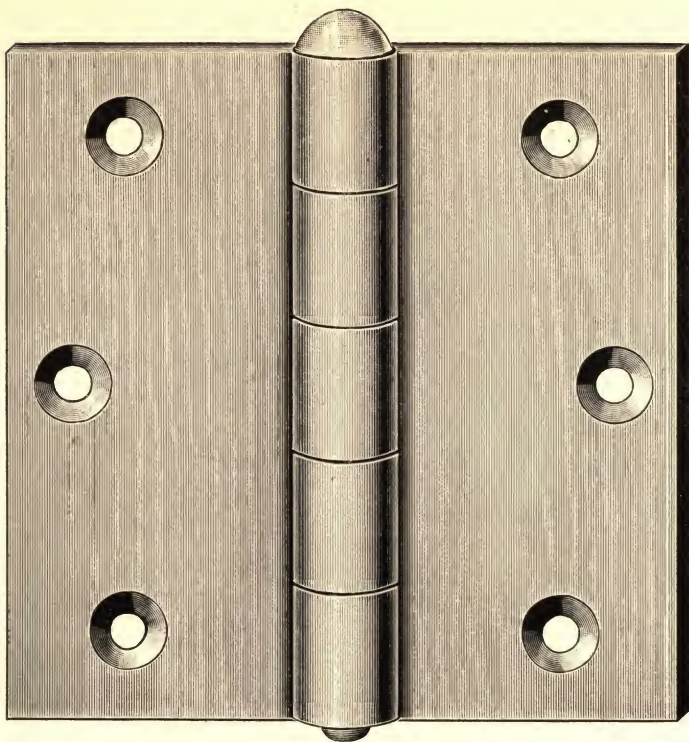
No. 500—Cut full size—three and one-half by three and one-half inches.

Any finish desired.

Bright Steel are packed one dozen pairs in a box.

Japanned or Plated Butts are packed one pair in a carton, with screws.

WROUGHT STEEL REVERSIBLE BUTT

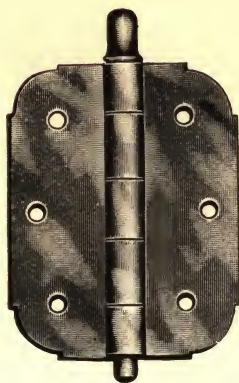


No. 504—Cut full size—three and one-half by three and one-half inches.

Bright Steel are packed one dozen pair in a box.

Japanned Butts are packed one pair in a carton, with screws.

LOOSE-PIN SURFACE HINGE



No. 121 — Cut one - half size.

3x2 1/2 inches.

Any finish desired. One dozen pair in a box, with screws.

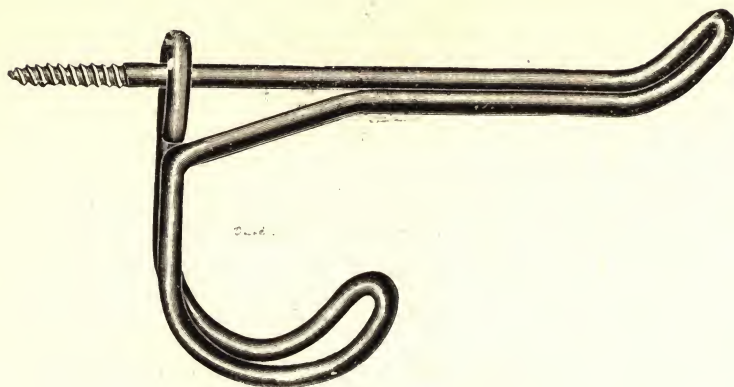
KITCHEN HOOK



No 567—Cut full size

Steel, brass plated. One gross in a box.

“CROWN” COAT-AND-HAT HOOK

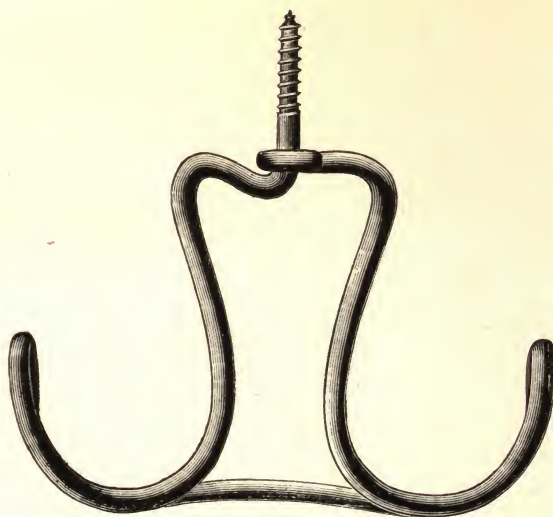


Size, 3 inches. Made of No. 10 wire.

Numbers	1013	1023	1063
Finish	Copper	Japanned	Nickel-Plated
Per gross	\$2.40	\$2.55	\$4.50

One-half gross in a box.

“FAVORITE” CEILING HOOK



Cut full size.

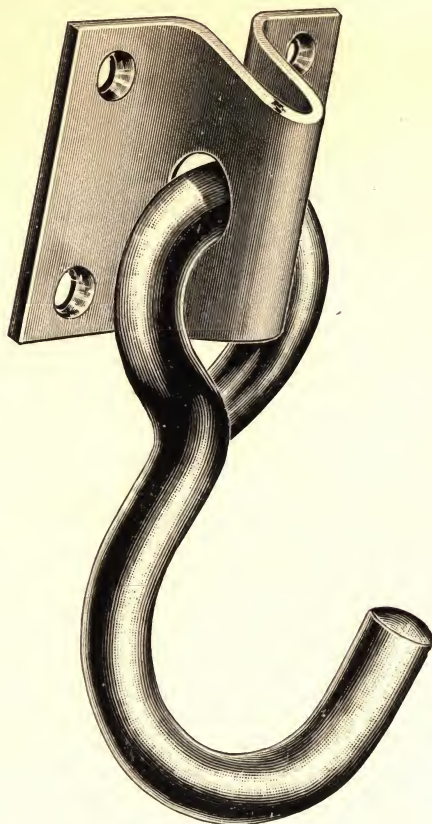
Made of No. 10 wire.

Numbers	082	82	682
Finish	Coppered	Jappanned	Nickel-Plated
Per gross	\$3.40	\$3.70	\$6.50

One-half gross in a box.

WROUGHT HAMMOCK HOOK

ON PLATE



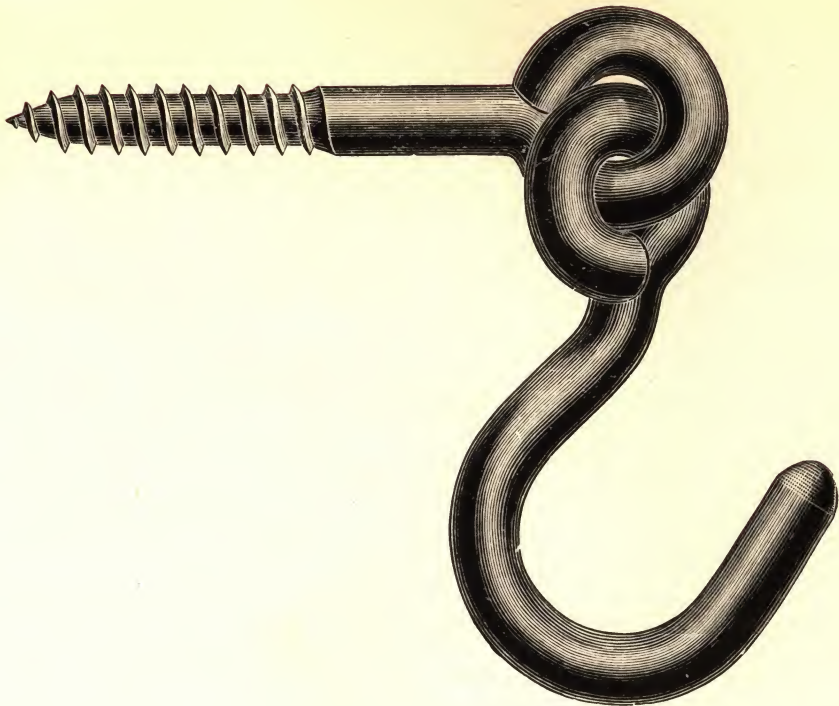
(PATENTED)

Never pull out.

Number	Diameter	Per dozen
38 Retinned	$\frac{5}{16}$ -inch	\$2.30
88 Retinned	$\frac{3}{8}$ -inch	\$2.40

One dozen in a box.

WROUGHT HAMMOCK HOOK ON SCREW

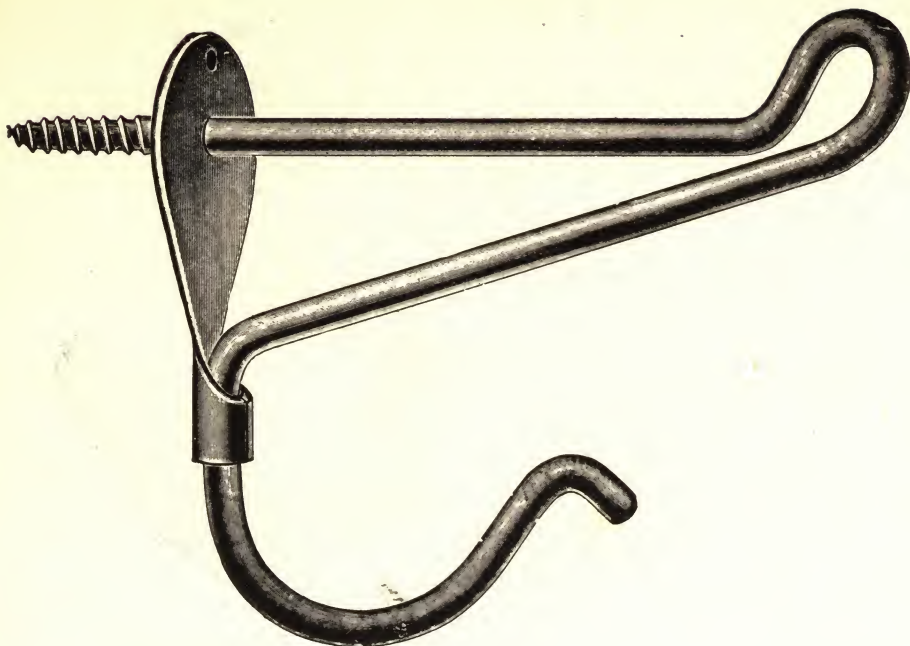


Number	Diameter	Per dozen
28 Retinned	$\frac{5}{16}$ -inch	\$2.00
48 Retinned	$\frac{3}{8}$ -inch	\$2.40

One dozen in a box.

HARNESS HOOK

JAPANNED

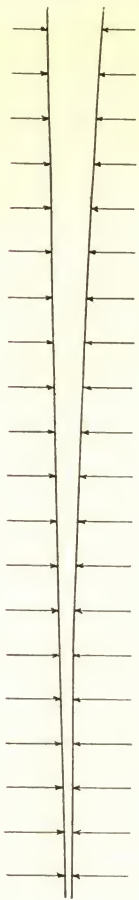


Number	76	78	710
Length, inches	6	8	10

One dozen in a box.

WIRE—(Plain or Galvanized)

SIZE, WEIGHT, STRENGTH

Space between arrows indicates size of corresponding number	Size No.	No. of feet in one pound	Weight of 100 ft. in lbs.	Breaking strain, lbs.
	1	4.71	21.23	5,650
	2	5.45	18.34	4,930
	3	6.34	15.78	4,250
	4	7.47	13.39	3,620
	5	8.81	11.35	3,040
	6	10.28	9.73	2,510
	7	12.05	8.03	2,220
	8	14.37	6.96	1,840
	9	17.24	5.08	1,560
	10	20.70	4.83	1,280
	11	26.18	3.82	1,000
	12	34.25	2.92	800
	13	44.64	2.24	568
	14	59.17	1.69	456
	15	73.00	1.37	352
	16	95.25	1.05	264
	17	129.87	.77	208
	18	172.11	.58	160
	19	222.22	.45	128
	20	312.50	.32	104

ROPE—(Manila)

SIZE, WEIGHT AND STRENGTH

	No. of feet in one pound	Weight of 100 feet in pounds	Breaking strain, pounds
$\frac{1}{4}$	40 ft.,	$2\frac{1}{2}$ lbs.	450
$\frac{5}{16}$	28 ft., $6\frac{3}{4}$ in.	$3\frac{1}{2}$ lbs.	750
$\frac{3}{8}$	20 ft.,	5 lbs.	900
$\frac{7}{16}$	16 ft., 8 in.	6 lbs.	1,250
$\frac{1}{2}$	12 ft., 6 in.	8 lbs.	1,700
$\frac{5}{8}$	7 ft., $1\frac{1}{2}$ in.	14 lbs.	3,000
$\frac{3}{4}$	5 ft., $10\frac{1}{2}$ in.	17 lbs.	3,900
$1\frac{1}{16}$	4 ft., 9 in.	21 lbs.	4,700
$\frac{7}{8}$	4 ft.,	25 lbs.	5,700
1	3 ft., $\frac{1}{2}$ in.	33 lbs.	6,750
$1\frac{1}{16}$	2 ft., $9\frac{1}{4}$ in.	36 lbs.	7,900
$1\frac{1}{8}$	2 ft., $3\frac{1}{4}$ in.	42 lbs.	9,200
$1\frac{1}{4}$	2 ft., 2 in.	46 lbs.	10,600
$1\frac{3}{8}$	1 ft., 9 in.	57 lbs.	13,500
$1\frac{7}{16}$	1 ft., $7\frac{1}{4}$ in.	62 lbs.	15,250
$1\frac{1}{2}$	1 ft., $5\frac{3}{4}$ in.	67 lbs.	16,900
$1\frac{5}{8}$	1 ft., $2\frac{1}{4}$ in.	84 lbs.	18,750
$1\frac{3}{4}$	1 ft.,	100 lbs.	22,700
2	10 in.	120 lbs.	29,300

Manila, Sisal and Jute ropes weigh about the same. Manila is about 25 per cent stronger than Sisal. Hawser Laid Rope will weigh one-sixth more. Tarred Hemp Rope weighs about one-fourth more than Manila rope.

